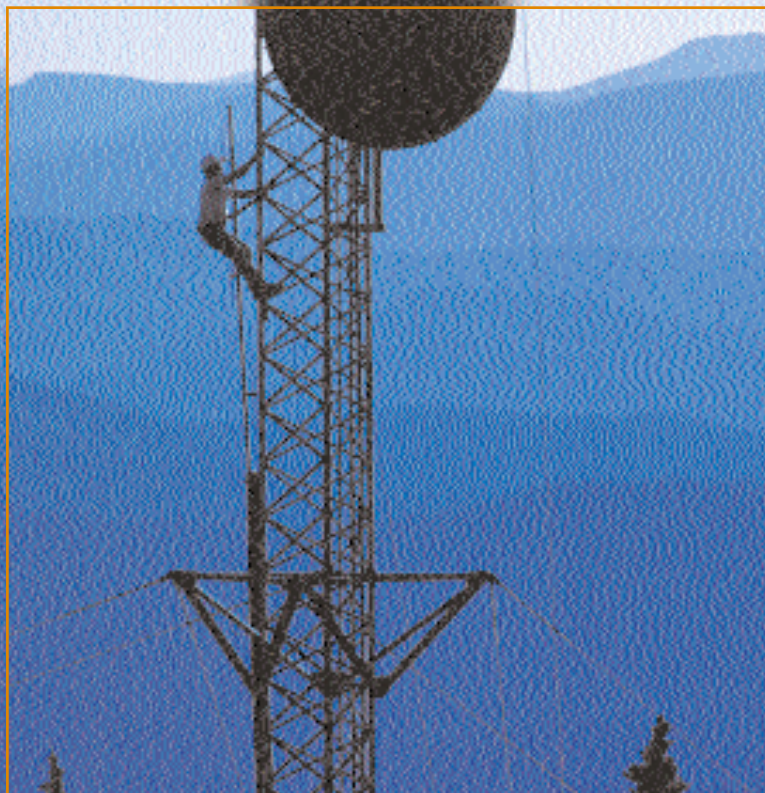


9 Reporting GHG Emissions



A credible GHG emissions report presents relevant information that is complete, consistent, accurate and transparent. While it takes time to develop a rigorous and complete corporate inventory of GHG emissions, knowledge will improve with experience in calculating and reporting data. It is therefore recommended that a public GHG report:

- Be based on the best data available at the time of publication, while being transparent about its limitations
- Communicate any material discrepancies identified in previous years
- Include the company's gross emissions for its chosen inventory boundary separate from and independent of any GHG trades it might engage in.

Reported information shall be “relevant, complete, consistent, transparent and accurate.” The *GHG Protocol Corporate Standard* requires reporting a minimum of scope 1 and scope 2 emissions.

Required information

A public GHG emissions report that is in accordance with the *GHG Protocol Corporate Standard* shall include the following information:

DESCRIPTION OF THE COMPANY AND INVENTORY BOUNDARY

- An outline of the organizational boundaries chosen, including the chosen consolidation approach.
- An outline of the operational boundaries chosen, and if scope 3 is included, a list specifying which types of activities are covered.
- The reporting period covered.

INFORMATION ON EMISSIONS

- Total scope 1 and 2 emissions independent of any GHG trades such as sales, purchases, transfers, or banking of allowances.
- Emissions data separately for each scope.
- Emissions data for all six GHGs separately (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆) in metric tonnes and in tonnes of CO₂ equivalent.
- Year chosen as base year, and an emissions profile over time that is consistent with and clarifies the chosen policy for making base year emissions recalculations.
- Appropriate context for any significant emissions changes that trigger base year emissions recalculation (acquisitions/divestitures, outsourcing/insourcing, changes in reporting boundaries or calculation methodologies, etc.).
- Emissions data for direct CO₂ emissions from biologically sequestered carbon (e.g., CO₂ from burning biomass/biofuels), reported separately from the scopes.
- Methodologies used to calculate or measure emissions, providing a reference or link to any calculation tools used.
- Any specific exclusions of sources, facilities, and/or operations.

Optional information

A public GHG emissions report should include, when applicable, the following additional information:

INFORMATION ON EMISSIONS AND PERFORMANCE

- Emissions data from relevant scope 3 emissions activities for which reliable data can be obtained.
- Emissions data further subdivided, where this aids transparency, by business units/facilities, country, source types (stationary combustion, process, fugitive, etc.), and activity types (production of electricity, transportation, generation of purchased electricity that is sold to end users, etc.).
- Emissions attributable to own generation of electricity, heat, or steam that is sold or transferred to another organization (see chapter 4).
- Emissions attributable to the generation of electricity, heat or steam that is purchased for re-sale to non-end users (see chapter 4).
- A description of performance measured against internal and external benchmarks.
- Emissions from GHGs not covered by the Kyoto Protocol (e.g., CFCs, NO_x), reported separately from scopes.
- Relevant ratio performance indicators (e.g. emissions per kilowatt-hour generated, tonne of material production, or sales).
- An outline of any GHG management/reduction programs or strategies.
- Information on any contractual provisions addressing GHG-related risks and obligations.
- An outline of any external assurance provided and a copy of any verification statement, if applicable, of the reported emissions data.

- Information on the causes of emissions changes that did not trigger a base year emissions recalculation (e.g., process changes, efficiency improvements, plant closures).
- GHG emissions data for all years between the base year and the reporting year (including details of and reasons for recalculations, if appropriate)
- Information on the quality of the inventory (e.g., information on the causes and magnitude of uncertainties in emission estimates) and an outline of policies in place to improve inventory quality. (see chapter 7).
- Information on any GHG sequestration.
- A list of facilities included in the inventory.
- A contact person.

INFORMATION ON OFFSETS

- Information on offsets that have been purchased or developed outside the inventory boundary, subdivided by GHG storage/removals and emissions reduction projects. Specify if the offsets are verified/certified (see chapter 8) and/or approved by an external GHG program (e.g., the Clean Development Mechanism, Joint Implementation).
- Information on reductions at sources inside the inventory boundary that have been sold/transferred as offsets to a third party. Specify if the reduction has been verified/certified and/or approved by an external GHG program (see chapter 8).



By following the *GHG Protocol Corporate Standard* reporting requirements, users adopt a comprehensive standard with the necessary detail and transparency for credible public reporting. The appropriate level of reporting of optional information categories can be determined by the objectives and intended audience for the report. For national or voluntary GHG programs, or for internal management purposes, reporting requirements may vary (Appendix C summarizes the requirements of various GHG programs).

For public reporting, it is important to differentiate between a summary of a public report that is, for example, published on the Internet or in Sustainability/Corporate Social Responsibility reporting (e.g., Global Reporting Initiative) and a full public report that contains all the necessary data as specified by the reporting standard spelled out in this volume. Not every circulated report must contain all information as specified by this standard, but a link or reference needs to be made to a publicly available full report where all information is available.

For some companies, providing emissions data for specific GHGs or facilities/business units, or reporting ratio indicators, may compromise business confidentiality. If this is the case, the data need not be publicly reported, but can be made available to those auditing the GHG emissions data, assuming confidentiality is secured.

Companies should strive to create a report that is as transparent, accurate, consistent and complete as possible. Structurally, this may be achieved by adopting the reporting categories of the standard (e.g., required description of the company and inventory boundary, required information on corporate emissions, optional information on emissions and performance, and optional information on offsets) as a basis of the report. Qualitatively, including a discussion of the reporting company's strategy and goals for GHG accounting, any particular challenges or tradeoffs faced, the context of decisions on boundaries and other accounting parameters, and an analysis of emissions trends may help provide a complete picture of the company's inventory efforts.

Double Counting

Companies should take care to identify and exclude from reporting any scope 2 or scope 3 emissions that are also reported as scope 1 emissions by other facilities, business units, or companies included in the emissions inventory consolidation (see chapter 6).

Use of ratio indicators

Two principal aspects of GHG performance are of interest to management and stakeholders. One concerns the overall GHG impact of a company—that is the absolute quantity of GHG emissions released to the atmosphere. The other concerns the company's GHG emissions normalized by some business metric that results in a ratio indicator. The *GHG Protocol Corporate Standard* requires reporting of absolute emissions; reporting of ratio indicators is optional.

Ratio indicators provide information on performance relative to a business type and can facilitate comparisons between similar products and processes over time. Companies may choose to report GHG ratio indicators in order to:

- Evaluate performance over time (e.g., relate figures from different years, identify trends in the data, and show performance in relation to targets and base years (see chapter 11).
- Establish a relationship between data from different categories. For example, a company may want to establish a relationship between the value that an action provides (e.g., price of a tonne of product) and its impact on society or on the environment (e.g., emissions from product manufacturing).
- Improve comparability between different sizes of business and operations by normalizing figures (e.g., by assessing the impact of different sized businesses on the same scale).

It is important to recognize that the inherent diversity of businesses and the circumstances of individual companies can result in misleading indicators. Apparently minor differences in process, product, or location can be significant in terms of environmental effect. Therefore, it is necessary to know the business context in order to be able to design and interpret ratio indicators correctly.

Companies may develop ratios that make most sense for their business and are relevant to their decision-making needs. They may select ratios for external reporting that improve the understanding and clarify the interpretation of their performance for their stakeholders. It is important to provide some perspective on issues such as scale and limitations of indicators in a way that users understand the nature of the information provided. Companies should consider what ratio indicators best capture the benefits and impacts of their business, i.e., its operations, its products, and its effects on the marketplace and on the entire economy. Some examples of different ratio indicators are provided here.

PRODUCTIVITY/EFFICIENCY RATIOS.

Productivity/efficiency ratios express the value or achievement of a business divided by its GHG impact. Increasing efficiency ratios reflect a positive performance improvement. Examples of productivity/efficiency ratios include resource productivity (e.g., sales per GHG) and process eco-efficiency (e.g., production volume per amount of GHG).

MidAmerican: Setting ratio indicators for a utility company

MidAmerican Energy Holdings Company, an energy company based in Iowa, wanted a method to track a power plant's GHG intensity, while also being able to roll individual plant results into a corporate "generation portfolio" GHG intensity indicator. MidAmerican also wanted to be able to take into account the GHG benefits from planned renewable generation, as well as measure the impacts of other changes to its generation portfolio over time (e.g., unit retirements or new construction). The company adopted a GHG intensity indicator that specifically measures pounds of direct emissions over total megawatt hours generated (lbs/MWh).

To measure its direct emissions, the company leverages data currently gathered to satisfy existing regulatory requirements and, where gaps might exist, uses fuel calculations. For coal-fired units, that means mainly using continuous emissions monitoring (CEM) data and the U.S. Environmental Protection Agency's emission factors for natural gas- and fuel oil-fired units. Using the *GHG Protocol Corporate Standard*, the company completes an annual emission inventory for each of its fossil-fired plants, gathering together a) fuel volume and heat input data, b) megawatt production data, c) CEMs data, and d) fuel calculations using appropriate emission factors.

For example, in 2001, using CEM data and fuel calculations, the company's Iowa utility business emitted roughly 23 million tonnes of CO₂, while generating approximately 21 million megawatt hours. Its 2001 GHG intensity indicator calculates to approximately 2,177 lbs/MWh of CO₂, reflecting the Iowa utility company's reliance on traditional coal-fired generation.

By 2008, the Iowa utility company will have constructed a new 790 MW coal-fueled plant, a 540 MW combined-cycle natural gas plant, and a 310 MW wind-turbine farm and added them to its generation portfolio. The utility company's overall CO₂ emissions will increase, but so will its megawatt production. The combined emissions from the new coal- and gas-fired plants will be added to the GHG intensity indicator's numerator, while the megawatt production data from all three facilities will be added to the indicator's denominator. More importantly, and the ratio indicator illustrates this, over time MidAmerican's GHG intensity will decline as more efficient generation is brought online and older power plants are used less or retired altogether.

INTENSITY RATIOS. Intensity ratios express GHG impact per unit of physical activity or unit of economic output. A physical intensity ratio is suitable when aggregating or comparing across businesses that have similar products. An economic intensity ratio is suitable when aggregating or comparing across businesses that produce different products. A declining intensity ratio reflects a positive performance improvement. Many companies historically tracked environmental performance with intensity ratios. Intensity ratios are often called “normalized” environmental impact data. Examples of intensity ratios include product emission intensity (e.g., tonnes of CO₂ emissions per electricity generated); service intensity (e.g., GHG emissions per function or per service); and sales intensity (e.g., emissions per sales).

PERCENTAGES. A percentage indicator is a ratio between two similar issues (with the same physical unit in the numerator and the denominator). Examples of percentages that can be meaningful in performance reports include current GHG emissions expressed as a percentage of base year GHG emissions.

For further guidance on ratio indicators refer to CCAR, 2003; GRI, 2002; Verfaillie and Bidwell, 2000.

